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ABSTRACT

Presented is the final report of Colorado's Child Services Demonstration Project, designed to develop, implement, and evaluate a team staffing program to aid children with specific learning disabilities. The program is described in terms of rationale, replication, children served, staff activities (educational diagnosis, prescriptive programing, implementing instruction, and educational evaluation), and operating costs. Data from evaluation of the seven replication units is noted to reveal that considerable variation as to the comprehensiveness and organization of the diagnostic work-up was evidenced; that there was some evidence that some activities were being recommended for all children without regard to the specific needs of the children involved; and that evaluators varied considerably from carefully observing student performance and charting progress to little or no attention to student performance and emerging needs. Recommendations are summarized which pertain to program operation, adoption or implementation, and further study. Appended are a typical case study of a learning disabled kindergarten child which includes a diagnostician's report, a programer's report, an implementer's report, and an evaluator's report; information which includes program documents, program role statements, and program typical forms used; and an outline on evaluation methodology. (SBH)

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# CHILD SERVICES DEMONSTRATION CENTER

## (ESEA VI-G)

## EVALUATION: SUMMARY REPORT

Constance Rose, Consultant
John Helper, Consultant

Special Education Services Unit
David C. Miles, Director

Office of Department Management Services
Edwin E. Steinbrecher, Assistant Commissioner

COLORADO DEPARTMENT OF EDUCATION

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## ABSTRACT

The Child Services Demonstration Project in Colorado (a) developed a differentiated team staffing program to aid children with specific learning disabilities, (b) implemented the program in seven administrative units across the state, and (c) evaluated the efficacy of the program and the extent of its implementation. Initial development of the program took place in Adams School District #50, Westminster, Colorado, and subsequent implementations and adaptations of the program were made in:

Boulder #Re-1J, Longmont
South Platte Valley BOCS
Arapahoe #2, Sheridan
Las Animas #1, Trinidad
Arapahoe #6, Littleton
Otero #Re-1, La Junta
Mesa #51, Grand Junction

The model calls for a team of four professionals, each expert in one of the following principal functions: educational diagnosis, instructional programming, implementation or evaluation. Materials and procedures have been developed in each of these areas for identification and amelioration of specific learning disabilities. An external evaluation conducted by the Educational Planning Service at the University of Northern Colorado provided descriptive data, along with recommendations for further program development and study.

## FOREWORD

In the wake of increasing interest and efforts in educating handicapped children, many new, alternative model programs are being developed and recommended. Presented here is one such alternative program - a differentiated team approach to serving children with specific learning disabilities. This model was first developed in Adams School District #50, Westminster, Colorado, and has been adopted to varying extents in seven other administrative units in the state.

The purpose of this report is to summarize a larger, more detailed report of the evaluation which was conducted by the Educational Planning Service at the University of Northern Colorado in Greeley. Information contained herein was selected to be of interest to:

Prospective adopters of the differentiated team approach who wish to know what costs, administrative arrangements, and what student benefits may reasonably be expected with the adoption of the model or certain components thereof.

Staff personnel in the eight participating districts who, for the greater understanding of their work, wish to compare certain aspects of their efforts with others across the state.

Those persons engaged in preparing teachers who wish to consider what skills, understandings, knowledge and attitudes are needed for working on an expert team.

Legislators, board members and others deciding on educational policy, who wish to consider implications of the model program in their deliberations on special education.

Accordingly, this report contains information considered by staff of the Department of Education to be of general interest. Further, more detailed information may be gleaned from the two-volume report which is available in the Special Education Services Unit. Also, Department staff are ready to answer questions arising from this report and your consideration of it.

ACKNOWLEDGEMENTS

Evaluating Colorado's Child Services Demonstration Program was a cooperative endeavor involving many persons. Staff members in the participating school districts spent a considerable amount of their own time in identifying their goals and objectives and deciding on appropriate measures of attainment. Personnel from the Educational Planning Service at the University of Northern Colorado not only met their contractual obligations in designing the evaluation instruments, data collection and preparation of the two-volume final report, but they also established and maintained a cooperative spirit among program participants.

Special thanks should go to Mrs. Esther Brown and the Westminster team for providing baseline information regarding the nature and operation of the differentiated team approach for serving children with specific learning disabilities.

Constance Rose, Project Director
John Helper, Evaluation Coordinator

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# I

## PROGRAM DESCRIPTION

The Child Services Demonstration Program was funded under Title VI-G, Public Law 91-230. The purpose of the funding was to replicate the educational intervention techniques developed by the Adams School District #50 Educationally Handicapped Resource Center in other schools in Colorado. The strategy used for the replication effort was a multiplying system, i.e., the staff of the model center trains the staff of a second center, the second center's staff trains the staff of a third center, and so on. The following presents a conceptual description of the model and the multiplying system.

### Rationale

Certain principles guided the development and operation of the model program.

1. By differentiation of roles (see appendix B) among staff members, each could develop and utilize expertise in one of these areas:

    a. Educational diagnosis
    b. Planning or programming instruction
    c. Teaching or implementation of instruction
    d. Educational evaluation of the program and student progress

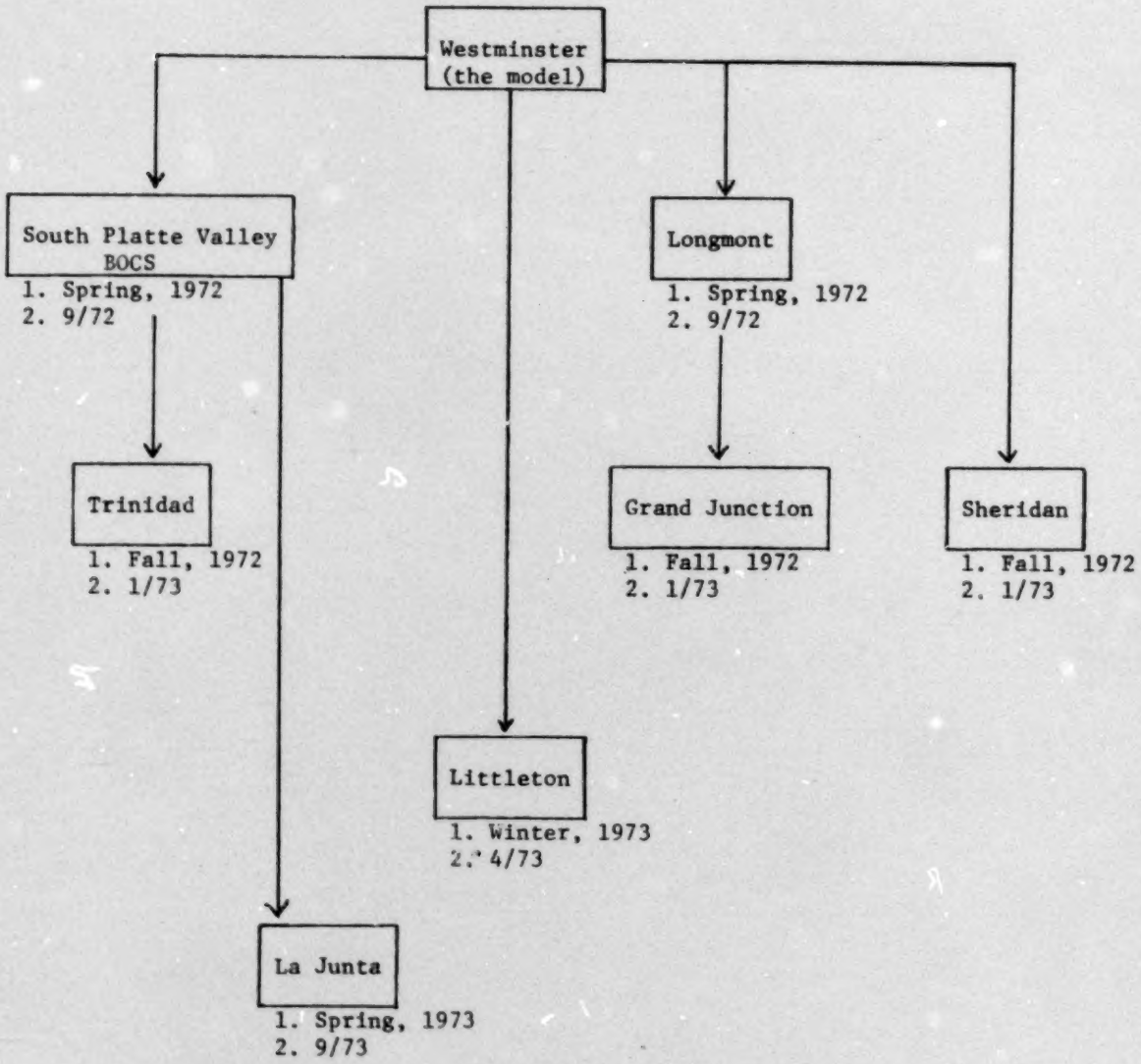
2. By operating as a team, information could be pooled to provide a comprehensive basis for decisions regarding the educational experiences to be developed for each child.

### Replication

The original model was developed over a two-year period and, starting in the fall of 1971, teachers from seven administrative units received training to initiate and operate the program in their home schools. Figure 1.1, following, shows this procedure graphically. Table I on page 3 gives estimated costs of initiating the model program in each of the eight administrative units. Figure 1.2 describes the operation of the model program in serving children with specific learning disabilities - from initial referral to year-end evaluation.

FIGURE 1.1

SEQUENCE OF TRAINING AND IMPLEMENTATION




Legend:

1. When training was completed
2. When resource center became operational

TABLE I

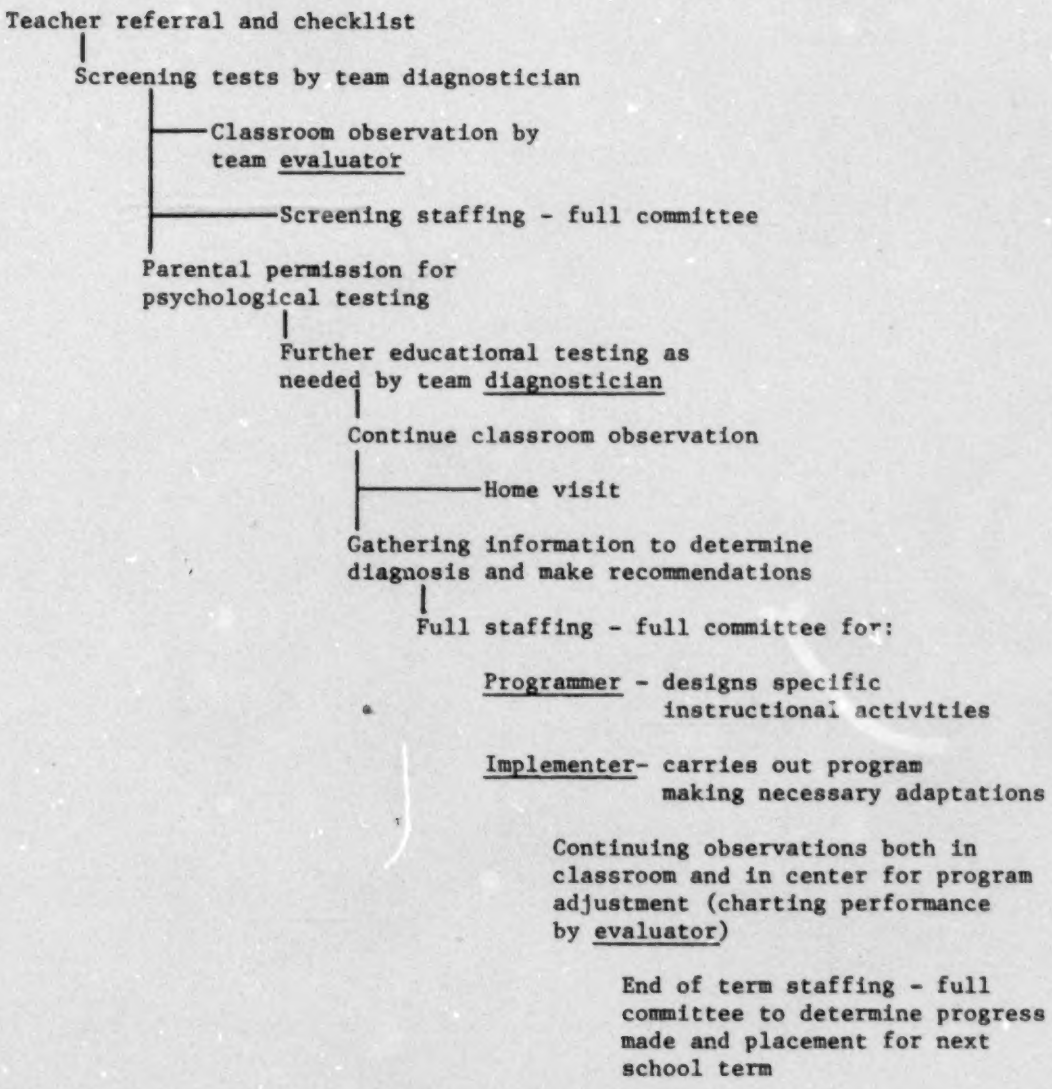
CENTER STARTING COSTS

| Category | Centers | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Westminster | Longmont | South Platte BOCS | Sheridan | Littleton | Trinidad | Grand Junction | La Junta |
| Facilities | $24,000 [1] | $ [2] | $ [2] | $ — [2] | $ [2] | $ 1,550 [2] | $ [2] | $ [2] |
| Equipment | 422 | 5,000 [3] | -- | 2,000 [3] | 6,000 [3] | 500 | 1,200 [3] | 2,050 [3] |
| Materials | 1,045 | -- | -- | -- | -- | 1,600 | -- | -- |
| Professional Staff [4] | 4 @ 33,440 | 4 @ 43,755 | 6 @ 51,590 | 43,557 | 8 @ 41,855 | 4 @ 28,400 | 4 @ 43,000 | 4 @ 34,844 |
| Aides [4] | 4 @ 11,850 | 2 @ 7,500 | -- | -- | 4 @ 4,617 | 2½ @ 6,700 | -- | 2 @ 5,112 |
| Transportation | -- | -- | 3,750 | 600 | -- | 600 | -- | 3,150 |
| Inservice | 5,985 | 7,186 | 7,293 | 4,625 | 5,319 | 6,123 | -- | 6,678 |
| TOTALS | $76,742 | $63,441 | $62,633 | $50,782 | $57,791 | $45,473 | $44,200 | $51,834 |

1. Resource Center purchased for this program. Add normal prorata costs for utilities, maintenance and custodial service.
2. Facilities available at no additional cost. Add normal prorata costs for utilities, maintenance and custodial service.
3. Figure also includes materials, supplies and equipment.
4. Staff costs do not include fringe benefits.

FIGURE 1.2

PROGRAM OPERATION


Teacher referral and checklist
Screening tests by team diagnostician
Classroom observation by team evaluator
Screening staffing - full committee
Parental permission for psychological testing
Further educational testing as needed by team diagnostician
Continue classroom observation
Home visit
Gathering information to determine diagnosis and make recommendations
Full staffing - full committee for:
Programmer - designs specific instructional activities
Implementer- carries out program making necessary adaptations
Continuing observations both in classroom and in center for program adjustment (charting performance by evaluator)
End of term staffing - full committee to determine progress made and placement for next school term

Children Served

The model was originally developed to serve children found to be "educationally handicapped", as defined by the Administrative Procedures for the Special Education Program developed in 1970 by the Colorado Department of Education as follows:

> "An educationally handicapped child is one whose behavior manifests itself in such a manner that it is likely to interfere with the child's own process or the educational process of others. 'Behavior' should be thought of in the broad educational and psychological aspect of the term. In most instances, there is an educationally significant discrepancy between his apparent capacity for language or communicative behavior and his actual level of performance."

This definition generally harmonizes with that for "children with specific learning disabilities" as defined in P.L. 91-230, the Elementary and Secondary Education Act, which provides federal funds for this program:

> "Children with specific learning disabilities means those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, mental retardation, emotional disturbance, or environmental disadvantage."

Current legislation in Colorado, the Handicapped Children's Educational Act of 1973, provides funds for such programs under the classification of "perceptual/communicative" disorders. Guidelines for programs for these children are presently in the developmental stage at the Department of Education.

Generally, a child is included in the model program if:

1. The child's sensory mechanisms of hearing, seeing and feeling are intact.

2. The child is not performing at a level consistent with measures of his potential.

3. The child deviates appreciably from his peers of similar ethnic, socio-economic status or condition of disadvantagement.

Table II, below, describes the specific disabilities among the population served by the program during 1973-74. The numbers here represent only a sampling, not the total population of over 540 children served in 1973-74.

TABLE II

DISORDERS OF CHILDREN SERVED BY THE
CHILD SERVICES DEMONSTRATION PROGRAM
1973-74
(Sample)

| Types* | Number of Children | Types* | Number of Children |
|---|---|---|---|
| A | 28 | V | 41 |
| A,B | 5 | V,A | 48 |
| A,B,SE | 2 | V,A,B | 3 |
| A,B,P,SE | 1 | V,A,P,SE | 2 |
| A,P | 10 | V,A,S,E | 11 |
| A,P,B | 1 | V,B,S,E | 3 |
| A,P,C | 1 | V,C | 5 |
| A,SE | 2 | V,M | 1 |
| B | 4 | V,A,B | 2 |
| B,SE | 3 | V,A,C | 4 |
| B,V | 4 | V,A,P | 63 |
| M | 1 | V,A,P,B | 11 |
| P | 3 | V,A,P,C | 1 |
| P,B | 2 | V,B | 4 |
| P,C | 1 | V,P | 45 |
| P,SE | 2 | V,P,C | 4 |
| SE | 1 | V,S,E | 3 |

*Code:

A = Auditory Perception
B = Behavior
C = Conceptual
M = Memory
P = Perceptual motor
SE= Socio-economic
V = Visual perceptual

As can be noted in the preceding table:

1. Most of the children indicated combinations of disorders, rather than a single disorder.

2. Problems connected with visual perceptual outnumbered those connected with auditory perception.

3. Comparatively few served exhibited only behavioral (B) or socio-emotional (SE) disorders.

To provide a more in-depth understanding of the nature of the disabilities of children served, a typical case study is contained in Appendix A of the report. Also, consistent with the original model, the nature of the disabilities among children being served were described by the "learning quotient", which is one means of comparing a child's achievement level with his or her potential. It is computed as follows:

$$\frac{MA + CA + GA}{3} = EA$$

MA = Mental age, as measured by standard aptitude tests, in months
CA = Chronological age in months
GA = Current grade placement plus 5.2
EA = Expected age

The expected age is then compared to the achievement age, as measured by standard aptitude tests, as follows:

$$\frac{AA}{EA} + LQ$$

For example, a child with an "achievement age" (AA) of 80 and an "expected age" (EA) of 100 months would have a "learning quotient" (LQ) of .80. The lower the LQ, the greater the discrepancy between a child's potential and his or her achievement.

Table III, following, further describes the population served by the program in 1973-74 in terms of "learning quotients" among certain population groups.

TABLE III

AVERAGE LEARNING QUOTIENTS
OF
STUDENT POPULATION GROUPS SERVED

| Group | N* | Average LQ | Standard Deviation |
|---|---|---|---|
| Boys | 268 | .89 | .12 |
| Girls | 87 | .93 | .11 |
| Anglo | 276 | .90 | .11 |
| Minority | 79 | .89 | .13 |
| Kindergarten | 6 | 1.03 | .15 |
| Grade 1 | 88 | .92 | .11 |
| Grade 2 | 89 | .92 | .09 |
| Grade 3 | 89 | .90 | .12 |
| Grade 4 | 52 | .84 | .09 |
| Grade 5 | 18 | .88 | .13 |
| Grade 6 | 12 | .80 | .15 |
| Mild Disability | 48 | .91 | .14 |
| Moderate Disability | 126 | .90 | .12 |
| Severe Disability | 181 | .89 | .11 |

* N = includes those children for whom complete data was available - about 75 percent of the total population

Several observations may be made regarding the children being served by the program:

1. Boys outnumber girls approximately three to one.

2. The proportion of anglo to minority reflects that proportion in the general school population in those areas served.

3. The program serves more children in the lower grades than the upper grades.

4. A majority of children served were judged by program staff to have "severe disabilities".

5. "Learning quotients" differed significantly between boys and girls.

Following are district-by-district descriptions of the population being served in December, 1973.

TABLE IV

STATEWIDE CENTER POPULATION
BY GRADE LEVEL

| Center | Grades | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | Kdg. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Westminster | 0 | 16 | 5 | 7 | 3 | 0 | 0 | 0 | 0 | 31 |
| Sheridan | 2 | 11 | 18 | 6 | 11 | 6 | 0 | 0 | 0 | 56 |
| Trinidad | 3 | 5 | 9 | 10 | 5 | 0 | 0 | 0 | 0 | 32 |
| South Platte BOCS | 0 | 5 | 7 | 15 | 12 | 2 | 1 | 0 | 0 | 42 |
| La Junta | 0 | 27 | 9 | 14 | 3 | 2 | 0 | 0 | 1 | 56 |
| Longmont | 0 | 27 | 14 | 8 | 2 | 0 | 0 | 0 | 0 | 51 |
| Littleton | 23 | 23 | 21 | 14 | 21 | 23 | 16 | 0 | 0 | 141 |
| Grand Junction | 4 | 12 | 3 | 6 | 8 | 5 | 5 | 0 | 0 | 43 |
| TOTALS | 32 | 126 | 86 | 82 | 65 | 38 | 22 | 0 | 1 | 452 |

TABLE V

STATEWIDE CENTER POPULATION
BY SEX AND ETHNICITY

| Center | Anglo | | Minority | | Total |
|---|---|---|---|---|---|
| | Male | Female | Male | Female | |
| Westminster | 20 | 8 | 3 | 0 | 31 |
| Sheridan | 32 | 8 | 10 | 6 | 56 |
| Trinidad | 2 | 1 | 22 | 7 | 32 |
| South Platte BOCS | 28 | 7 | 5 | 2 | 42 |
| La Junta | 18 | 6 | 15 | 17 | 56 |
| Longmont | 39 | 11 | 1 | 0 | 51 |
| Littleton | 97 | 43 | 1 | 0 | 141 |
| Grand Junction | 34 | 5 | 3 | 1 | 43 |
| TOTALS | 270 | 89 | 60 | 33 | 452 |

Staff Activities

The core staff is four teacher specialists with differentiated roles. Each has a major responsibility in one of the four processes necessary for effective educational intervention. The four teacher experts operate as a team when intervening with a given student, but each specializes in one of the following areas:

1. Educational diagnosis - selecting, devising, administering and interpreting diagnostic instruments and training others in their use.

2. Prescriptive programming - relating diagnostic findings to educational techniques; selecting, devising, recommending and testing educational materials for individual children and specific groups of children.

3. Implementing instruction - carrying out the programmer's recommendations; arranging schedules, groupings, and changing these when needed; training teachers and aides to utilize specialized and innovative methods.

4. Educational evaluation - recording student's responses and progress; selecting and devising techniques to rate and measure the effectiveness of instruction, attitudinal changes and behavioral changes; recommending additional efforts in any area when indicated.

In addition to the four teacher specialists, support and consultant staff are available for direct service. These include teacher aides, psychologists, counselors, school nurses, social workers, speech correctionists, audiometrists, school principals, etc.

Generally, the model calls for each staff member to work in his or her particular area of expertise a majority of the time. Table VI, following, shows the model time allocation and Table VII indicates how staff members actually spent their time. Recommendations as to modifications in staff time allocations are contained in Part III of this report, following an evaluation of program performance in Part II.

TABLE VI

DISTRIBUTIONS OF FUNCTIONS
AMONG TEAM SPECIALISTS
(Model)

| Specialist | Duties - Percent of Time Spent | | | | Totals |
|---|---|---|---|---|---|
| | Diagnosing | Programming | Implementing | Evaluating | |
| Diagnostician | 70 | 10 | 10 | 10 | 100 |
| Programmer | 10 | 70 | 10 | 10 | 100 |
| Implementor | 10 | 10 | 70 | 10 | 100 |
| Evaluator | 10 | 10 | 10 | 70 | 100 |
| TOTALS | 100 | 100 | 100 | 100 | |

TABLE VII

AVERAGE PERCENT OF TIME TEAM MEMBERS SPEND
ON SIX TYPES OF TASKS*
(Statewide Estimates)

| Roles | I | II | III | IV | V | VI | Total |
|---|---|---|---|---|---|---|---|
| Diagnosticians | 12.2 | 44.7 | 16.7 | 22.9 | 1.9 | 1.6 | 100.0 |
| Programmers | 22.4 | 27.4 | 30.5 | 18.4 | 1.3 | - | 100.0 |
| Implementors | 29.1 | 1.4 | 61.7 | 6.2 | .8 | .8 | 100.0 |
| Evaluators | 15.8 | 37.5 | 23.2 | 23.5 | - | - | 100.0 |
| Aides | 27.4 | 6.0 | 64.3 | 2.3 | - | - | 100.0 |
| AVERAGES | 21.4 | 24.4 | 39.2 | 15.7 | 1.3 | 1.2 | |

* Task Type:
I = Planning, preparation, making materials, recording, test analysis
II = Test administration, report writing, programming, evaluation, screening
III = Student instruction
IV = Conferences, meetings, staffings
V = Travel
VI = Other

Particularly noteworthy from Tables VI and VII are the following observations:

1. Instruction accounted for 39.2 percent of total staff time, on the average.

2. Aides are involved in student instruction nearly two-thirds of the time.

3. Evaluators and programmers spend their time, on the average, on more diverse tasks than others on the team.

4. Travel time, on the average, accounted for 1.3 percent of staff time.

5. Many of the activities were not immediately recognizable as belonging to one of the four functions - diagnosis, programming, implementing or evaluating.

The nature of the activities designed for each role is described in Appendix B.

Operating Costs

Estimating per pupil costs was difficult, due to the lack of uniformity and detail in the accounting systems employed in the eight participating administrative units. Table VIII gives the estimates determined in on site visits and review of reports at the Department of Education by the Educational Planning Service personnel from the University of Northern Colorado.

Factors influencing costs of operation of the programs included the following:

1. Geography - in those administrative units where distances were great, the per pupil costs were considerably greater than where the program operated in a single school.

2. Extensiveness of services - in those cases where students were given extensive diagnostic and remedial services, costs were greater than where children were provided services in larger groups or for shorter periods of time.

3. Amount of "in kind" support services given children which were not attributable to this program, but which accounted for some of the services provided.

Estimated per pupil costs for operation of the model in the eight participating administrative units are shown in Table VIII.

TABLE VIII

PER PUPIL COST SUMMARY

| Center | Number of Students Served | Per Pupil Cost |
|---|---|---|
| Westminster | 144[1] | $ 456 |
| Longmont | 51 | 860 |
| South Platte BOCS | - | 839[2] |
| Sheridan | 64 | 721 |
| Littleton | 141[1] | 710 |
| Trinidad | 92[1] | 350 |
| La Junta | 67 | 666 |
| Grand Junction | - | 2,880[3] |
| | | 960[4] |
| | | 285[5] |
| STATEWIDE AVERAGE | | $ 694[6] |

1 = Includes students in regrouping activities and those served in regular classroom only.
2 = BOCS estimates per pupil cost to be same as regular special education program.
3 = Cost per pupil staffed through the Resource Center.
4 = Cost per pupil receiving resource room and traveling resource teacher service.
5 = Cost per pupil receiving traveling resource teacher service only.
6 = Calculated using Grand Junction's $960 figure.

Total costs may be expected to decrease once the program is initiated, as the following estimate shows from Westminster, Colorado.

TABLE IX

ESTIMATED PROGRAM COSTS
OVER A THREE-YEAR PERIOD

| | 1971-72 | 1972-73 | 1973-74 |
|---|---|---|---|
| Facilities[1] | $24,000 | $ -- | $ -- |
| Equipment | 422 | 450 | 450 |
| Materials | 1,045 | 1,000 | 1,000 |
| Staff[2] ( 4 @ ) | 33,440 | 35,200 | 45,458 |
| Aides ( 4 @ ) | 11,850 | 12,800 | 13,880 |
| Transportation | -- | -- | -- |
| Inservice | 5,985 | 4,083 | 4,897 |
| TOTALS | $76,742 | $53,533 | $65,685 |

## II

## PROGRAM PERFORMANCE

How well the program achieves the objectives considered to be important by program staff, certain measures of student gain, weaknesses and strengths of certain components - these are the factors which are considered below in this evaluation of program performance. Program performance encompasses the overall functioning of the program, not certain students, teachers and activities in isolation from one another.

### Attainment of Objectives

Considerable agreement was found among program staff regarding objectives for diagnosing, programming, implementing and evaluating, as carried out by the project team. The role statements contained in Appendix B describe, in general terms, purposes and procedures in this regard.

1. Diagnosing - to identify all students with specific learning disabilities and to find their areas of specific needs

   The evaluation team found:

   a. Considerable variation existed among classrooms, schools and districts regarding the percentages of children and types of disabilities being served. A child considered to be "severe" in one place would not be even considered for service in another.

   b. Those children being served had specific learning disabilities. A review of student folders showed evidence of considerable diagnostic work for each child, indicating the nature and severity of such disabilities.

   c. Considerable variation as to the comprehensiveness and organization of the diagnostic work-up was evidenced. Some of this variation may be due to the variation in the amount of diagnostic work actually needed, however, there seemed to be a lack of a definite policy or system which might prevent over-testing on one hand, and under-testing on the other.

2. Programming - to further specify areas of specific disability and to identify those student activities and experiences likely to ameliorate such disabilities

   The evaluation team found generally that:

   a. A wide range of activities and experiences was available, and more were being developed to serve specific needs. Generally, a program sheet (see Appendix B) was utilized to indicate the areas of activities to concentrate upon.

b. Some activities were recommended for whole groups of children exhibiting similar needs, thereby making efficient use of resources available. However, there was some evidence that some activities, i.e., lessons involving use of overhead projectors and work in following directions, were being recommended for all children without regard to the specific needs of the children involved.

3. Implementing - to execute faithfully the program developed for each child, while maintaining rapport and interaction conducive to student learning

   Observation of program operation and review of student records by the evaluation team found considerable variation regarding the component of the model. For example, where the implementor stayed in a particular school, the program developed by a traveling diagnostic team was not being followed by the implementor.

4. Evaluating - to provide information useful to team staff for deciding on program modification, continuation or termination for each student

   Significant findings included the following:

   a. Evaluators varied considerably from carefully observing student performance and charting progress to little or no attention to student performance and emerging needs.

   b. Charting student progress on continuums developed at Westminster was observed in two of the programs, however, little effort was being made to evaluate the effectiveness of the continuums or other materials and procedures being used extensively in most of the programs.

Student Gain

Each of the eight participating administrative units has selected certain standard measures which are given periodically to indicate the nature and extent of student gain. Common among most programs was the ITPA, described as follows:

1. Auditory reception - ability to gain meaning from auditory stimuli

2. Visual reception - ability to gain meaning from visually received stimuli

3. Auditory association - ability to relate auditorily received stimuli in a meaningful way

4. Visual association - ability to relate visually received stimuli in a meaningful way

5. Verbal expression - ability to convey ideas in words

6. Manual expression - ability to convey ideas by gestures

7. Grammatic closure - ability to make use of redundancies of oral language in acquiring habits for handling syntax and grammatic inflections

8. Visual closure - ability to perceive visual material presented in incomplete form by making use of previous experiences with visual stimuli

9. Auditory sequential memory - ability to reproduce from memory sequences of stimuli which have been auditorily received

10. Visual sequential memory - ability to reproduce from memory sequences of visually received stimuli

11. Auditory closure - ability to reproduce a work by filling in the missing parts which were omitted or distorted during presentation

12. Sound blending - ability to synthesize two or more discrete and isolated sounds into a whole

Evidence of student gain on the ITPA is available in each of the administrative units using it for this purpose. For the statewide evaluation, each unit administered the Wide Range Achievement Test (WRAT) in November (or upon entry) and again in May. A sampling of these scores are contained in Table IX. On the average, student gain on the WRAT was commensurate with what national norms would indicate - over an average of 6.39 months, students averaged gains of 6.70 in arithmetic. Further analysis of these results may be undertaken if interest warrants.

TABLE X

STUDENT POPULATION CHARACTERISTICS
AND MEAN WRAT GAIN, BY MONTHS

| N | Months (Pre-Post) | Sex[1] | | Ethnicity[1] | | Handicap Level[1] | | | Mean WRAT Gain (Months) | | | Mean LQ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Boy | Girl | Anglo | Minority | Mild | Moderate | Severe | Reading | Spelling | Arithmetic | |
| 1 | 3 | 100 | 0 | 100 | 0 | 0 | 0 | 100 | .00 | 7.00 | 10.00 | .81 |
| 14 | 4 | 93 | 7 | 86 | 14 | 0 | 21 | 79 | 4.86 | 5.00 | 6.43 | .92 |
| 43 | 5 | 74 | 26 | 65 | 35 | 7 | 7 | 86 | 4.95 | 6.00 | 4.51 | .91 |
| 20 | 6 | 75 | 25 | 90 | 10 | 10 | 35 | 55 | 5.00 | 4.20 | 4.25 | .88 |
| 85 | 7 | 73 | 27 | 93 | 7 | 14 | 41 | 45 | 7.05 | 4.92 | 6.52 | .90 |
| 32 | 8 | 78 | 22 | 81 | 19 | 3 | 50 | 47 | 10.20 | 5.78 | 7.75 | .85 |
| | | | | | | Statewide Composite | | | | | | |
| 195 | 6.39 | 76 | 24 | 84 | 16 | 9 | 33 | 58 | 6.70 | 5.24 | 6.06 | .89 |

[1] The figures under sex, ethnicity and handicap level are percentages of students in those categories.

## III

## RECOMMENDATIONS

The evaluation team from the University of Northern Colorado offered recommendations regarding program operation, replication and further study. These are summarized below.

### Program Operation

1. Records of student capabilities should follow the student to the regular classroom teacher upon dismissal from the program.

2. Information regarding the purposes and nature of the program should be available throughout the district to promote general understanding.

3. Communication among team members is a must, with records for each student available to guide program development, modificiation and evaluation.

### Adoption or Implementation

1. A center should not be started during the ongoing school year. Several districts that opted to do this expressed several major problems. The lag time between announcing the program and actual operation is quite long, conflicts in established schedules and use of facilities arise, and time for preparation of the regular teachers about expectations is not adequate. Several of the recommendations which follow are directly related to this one.

2. Inservice for regular classroom teachers, building principals and other district personnel should be carried out before the center is operational. The intent and purpose of the center can be explained, thereby bringing expectations more closely in line with reality. This could be accomplished in the spring prior to the fall when the center would become operational.

3. Center teams need to be selected with care. Each member should express an interest and a willingness to work in a differentiated staffing situation. There should be some evidence that each member can work in harmony with the other members. Good interpersonal relations, communication and confidence in the abilities of each member by the other members are essential for an effective team. Merely putting four individuals together and giving them specialized training does not create an effective team. Responsible officials must be confident that the individuals can operate as a team before they are trained.

4. Before a center program is adopted, the district administrators must provide adequate facilities. The State Department of Education guidelines indicate that facilities housing programs for educationally

handicapped students must be adequate and comparable to facilities housing the regular school program. It is further recommended that the adeqate facilities be permanent in nature to avoid the upset of moving the center periodically. The furniture supplied for the center should be suitable for the students both in size and repair. Students should not be forced to use improper furniture.

5. The decision to adopt the Child Services Demonstration Center model should be made prior to the final budget preparation. Enough advanced planning needs to be done to develop cost factors that must be included in the budget. In the final analysis, enough funds must be budgeted prior to the operationalization of a center.

6. It is recommended that formal lines of communication and authority be established before the team is selected and trained. A number of questions need answers before implementation. To whom will the team leader and/or team report? Will this person be responsible for the team's performance evaluation? If not, why not? If the center is located in a school building, what will be the role of the principal in relationship to the team? What will be the relationship between the team and the district's educational specialists? Answers to these kinds of questions will aid in developing the organizational pattern, i.e., the line and staff positions as they relate to the center team.

   If the center is located on a school's campus and serves that school's students, it is recommended that the principal be in a direct line position above the center's staff.

## Further Study

A number of areas that need further study are identified below.

1. Study needs to be done to develop a minimum list of materials and equipment a center must have on hand before it can begin operation. Also, a similar list needs to be developed that would provide the optimum rich mixture of materials and equipment for students served.

2. Study should be done to determine the optimum time for, and length of, center staff training and inservice for regular classroom teachers and other district personnel.

3. Each district should study the relationship of the center program to other special education and/or externally funded programs within the district. In some districts it was noted that students in the center program were also in other programs. Information needs to be generated to determine whether or not these programs are working in concert, or at cross purposes (as far as students are concerned). If the latter is true, corrective action needs to be taken.

4. An in-depth study needs to be made of per pupil costs. This will be difficult without improved cost accounting procedures. A study of this nature should differentiate between costs for students served in the center and those who receive peripheral service, i.e., regrouping.

The costs of these modes of service need to be looked at separately. If centers develop a specific evaluation scheme in terms of student performance, then a per pupil cost study would dovetail with a cost/student benefit analysis.

5. An in-depth comparative study between the traditional program and the differentiated staffing program needs to be made.

6. Study needs to be done to determine the minimum number of students needing service from a differentiated staff to make program implementation feasible in terms of cost/benefit. This would apply for a single district or for a consortium of districts.

7. An in-depth staff time study needs to be made to determine the maximum size of a team. From observation and interviews, it seemed apparent that at least two implementors could be adequately served by the other three team members. The data for this inference were mainly waiting lists of students and mid-year cutoff dates for referrals. The latter finding raises interesting questions, i.e., what do diagnosticians do when referrals are no longer accepted?

8. Some centers are staffed with less than four team members. A study needs to be done to determine the most appropriate combination of roles. The results would have implications for developing the priorities for cross-training of staff.

9. An in-depth study of time utilization by itinerant staff needs to be made. Some questions need answers. What is the maximum time an itinerant staff member should spend traveling, in terms of cost/benefit? Is it more efficient to transport students to the center, or the center's service to the students?

# APPENDIX A

## A TYPICAL CASE STUDY

DIAGNOSTICIAN'S REPORT

Description of the Problem

Janet's auditory perceptual problem may be complicated by visual motor perceptual problems. She shows her greatest strength in the visual field. Janet has problems understanding verbal instructions. Her performance is complicated by her hyperactivity, distractibility and her immature behavior.

Janet has problems sequencing, as is evidenced by her inability to connect or remember more than four words in a sequence.

Janet can make herself understood, but her language is incomplete and, at times, almost telegraphic. When she's not understood and is asked to repeat, she will often times say, "Forget it".

Speech-Language History

Janet's adopted mother reports that Janet's speech and language history was normal until she was two years old. She reportedly spoke words at eleven months, but did not develop adequate sentences.

Janet can, at present, make herself understood, but her language is very incomplete. She uses mostly nouns and verbs, but lacks the ability to connect these parts of speech into complete sentences. Often times, Janet anticipates that a speaking situation is going to be difficult, and she will avoid speaking at all.

Social, Family and Educational History

Janet is the youngest of three adopted children. She has two older brothers - nine and eleven years. Janet's mother seems to be a bit over protective, and very concerned about Janet and her future. However, the mother does not take suggestions well.

Janet is hyperactive and immature. Her mother reports that at age two years, Janet became destructive and negative. She still exhibits the characteristics, and both her mother and I find it difficult to control this behavior. Sometimes simply ignoring the behavior works.

Janet attended nursery school and a church nursery for a year. She is presently attending kindergarten at Spangler Elementary in Longmont. She is receiving auditory perceptual therapy for a few minutes from the resource center at Spangler. (We have no information as to the amount of time Janet has at the resource center.)

Medical History

Janet was adopted at age three weeks, and the reports on her delivery indicate that it was a normal delivery with no complications. Her mother

reports that, since her adoption, her medical history has been normal. Her only childhood disease reported to us was chicken pox.

Procedure (therapeutic procedure employed and rationale for use)

One of the first goals for Janet was to increase her expressive language. After this was accomplished, drill work, using the phrase "This is a _____" was used to increase her usage of the article "a". Auditory stimulation was paired with visual stimulus in forms of pictures or the written word. This was done, not only to strengthen her expressive language, but also to strengthen her sequencing ability and usage of different parts of speech to build her language abilities.

Janet functions best in a highly structured situation, and this is the type of therapy environment she should be subject to in the future. Janet's immature behavior at times interferes with our attempt to provide language stimulation. One must be careful in the discipline used for her because, if it is too harsh, she refuses to talk.

Janet needs to have a lot of success in her attempts at communicative speech and, therefore, the goals set for her should enable this success. Social reward works very well for Janet.

As well as working on the article "a" with Janet, I also worked on increasing her vocabulary through naming, i.e., "This is a _____". I also worked with her on "who" and "what" questions. For a time, we worked on concepts, such as fat/skinny, large/small.

Estimate of Progress

Janet has made some progress in increasing her expressive language. She becomes very verbal in a play situation. In fact, she gets carried away and creates a behavior problem when allowed to do so. However, there was felt to be a more severe problem underlying her auditory perceptual problem, or a more complex problem. She was, therefore, evaluated by SLEC III - the language disorders evaluation. This report is in Janet's file and should be highly regarded in any further therapy for Janet. It is felt that now we have more information concerning Janet's problem, thus enabling us to treat her more efficiently.

Disposition of Client

It is recommended that:

1. Janet continue individualized language therapy in a very structured environment.

2. In the language therapy for Janet, she should receive visual stimulation along with auditory stimulation. She should be given instructions that

are simple and short and are accompanied by visual cues when possible. She should work on concepts, i.e., fat/skinny, light/heavy, etc. Further testing or diagnosis should be done to determine other concepts needing work. She should work on questions, plurals and pronouns.

3. Janet should be given tasks that will allow her to succeed and avoid frustration.

4. As well as having Janet's therapy highly structured, it would be most beneficial for her therapy tc be more intense, i.e., four days a week for thirty to forty-five minutes.

PROGRAMMER'S REPORT

In the visual perception area, matching geometric shapes, puzzles, parquetry blocks, design blocks, shapes puzzles, and Frostig activities (visual-motor lessons 1-57, spatial relations lessons 1-25) were utilized regularly. Numerous teacher-made materials were also used, as well as peg boards (steps 2, 4, 5 and 7).

These same materials were modified to improve Janet's visual memory skills. Every week she would also be involved in a forty-five minute session utilizing an overhead transparency or an art project. While visual memory training was an important ingredient in these exercises, the ability to concentrate and expand one's attention span is imperative to be successful.

These same exercises focused in on improving Janet's auditory memory skills. These skills were also worked on in game situations, such as "Simon Says", where the subject must attend closely and follow directions. The first 113 lessons in the Peabody Language Development Kit, Level I, were employed to assist in the acquisition of memory skills, as well as general language development.

In the auditory closure area, a wide range of activities were completed. Many of these tasks involved sentence completion and word completion. Janet also worked on discrimination of auditory stimuli, such as noting the likenesses and differences of sounds and matching sounds.

Since Janet demonstrated a high interest in reading and was having moderate success in the classroom reading program, it was felt that she would profit from pre-reading and reading activities. She worked primarily on beginning letter sounds (b,f,g,h,k,m,l,p) and beginning sight words. These activities were conducted in game situations, such as bingo, fish, etc., and numerous teacher-made games.

It is this teacher's opinion that, although Janet demonstrated something less than dramatic progress in psycholinguistic and academic areas, significant growth did occur in social and behavioral areas. That fact leads this teacher to feel additional assistance will result in a development more in accordance with her learning quotient than previously noted. Much encouragement is also warranted when recognizing the significant progress Janet demonstrated in auditory closure and sound blending skills. (Note ITPA test results of 9/4/73 and 4/10/74.)

It is this teacher's opinion that significant progress will be noted if work continues in auditory memory, visual memory and auditory association. However, it is felt that the prime area is that of language development. It is imperative that Janet begin to comprehend long phrases and sentences. She must also use prepositions in her expressive language. She presently functions telegraphically, using nouns and verbs. In addition, various grammatical forms, i.e., singular/plural, adverb, verb, must be employed more precisely. Peer awareness of this immature verbal expression might hinder future relationships. It should be noted, at this time the teacher should be cautioned against asking

Janet to repeat any response. She quickly withdraws if asked "What did you say?". In developing these skills, it would be beneficial to present auditory stimuli, matched with visual stimuli, since Janet possesses adequate visual reception and superior visual association abilities.

Recapitulating, it is recommended that Janet receive continued assistance in academic areas and psycholinguistic areas, visual memory, auditory memory, and auditory association, and most definitely in verbal expression.

IMPLEMENTER'S REPORT

Through some informal testing, I found that Janet needed much help in listening, understanding and following directions, and in expressing herself verbally.

In helping her listen, I would call her name and say "listen", or in some way make sure she was attending. I would first give short directions for gross motor actions, then directions using her body, such as "Stand next to Kathy. Now, stand in back of her." Thirdly, I would use paper and pencil tasks, giving verbal instructions, or use the DLM Auditory Tape Series.

Janet needs to be drawn back to the speaker after every sentence. She does have a receptive vocabulary and can follow direct commands like "Put the book on the shelf." When directional words are used, she is confused. At the end of summer school, she knew the concepts on top of, above, next to, behind, in front of, around, and under, in terms of gross motor acts and in paper and pencil tasks (with the exception of under - she had consistent difficulty with that term when she had to apply it to pencil and paper tasks). She does know her colors and the geometric figures of squares and circles, but not triangles. In giving directions, she is at the level where she is able to follow only one idea in a command, such as she can understand "Take your green crayon and draw a square", but she is not able to follow the command "Take your green crayon and draw a square over the flower." All directions must be broken into one-step commands for her and her attention must be drawn continuously back to the task.

In asking or answering questions, Janet prefers to use labels, or one- or two-word phrases. Often, when you ask a question, she will wait and parrot another person's answer if it is short. In very few instances would she repeat what one said if it contains more than two or three words.

Janet works better in a one-to-one situation. She does not appear to be following what is happening when in a group, and will get up and get a book or walk out of the room. She will return to the group when asked.

She has a limited attention span, and frequently does not finish assignments. She has refused with a loud "I do not want to." However, she is obedient and will do what you want if you insist.

Janet is able to match colors and shapes, do difficult block designs and puzzles. She colors well, but has a hard time copying shapes from the board. She has not been able to do any visual sequencing activities concerning pictures.

Janet continues to need much help in language development, verbal expression, auditory memory, and help in some visual-motor areas and in visual sequencing.

EVALUATOR'S REPORT

Client's Name_____

Procedure (therapeutic procedure employed and rationale for use)

1. "To be" as a main verb:

   Picture cards were used and Janet had to identify them by saying "This is _____."

2. Plurals:

   Visual aids were used, i.e., "1" & (object) b, "2" & (object) & "S".

3. Prepositions "on" and "under":

   This was done receptively by having her follow directions "Put the ball under the table." Expressive use was achieved by asking "Where is the _____ which has just placed."

4. Interrogative:

   The words "this" and "is" were written on pieces of paper: (a) she identified the object as in #1, (b) she reversed the words "This is_____" to read "Is this_____."

5. Noun phrases:

   a. Color and noun - Janet identified the color of an object on picture cards and then named it.
   b. "This is color and noun" - color and noun became the object of the original sentence, i.e., "This is a blue book."
   c. "A color and noun" - identification of picture cards, plus visual "A".
   d. "This is a & color & noun" - picture cards, objects and visual "A" and visual color cards when needed.

Rationale

Goals one through four were achieved through analysis of Janet's spontaneous speech according to Laura Lee's "Developmental Sentence Scoring". Goal five was achieved by analyzing Janet's speech according to Laura Lee's "Developmental Sentence Types". Janet was found to be using sentence fragments, but was unable to join more than three or four words in sequence. Three word noun phrases were chosen to increase (a) her sentence length, and (b) her auditory and sequencing, which were shown to be impaired on the ITPA.

Estimate of Progress

1. Janet is very adept at saying "This is noun" using picture cards. She can do this with 90 - 95 percent accuracy.

2. Janet can use the singular and plural forms 90 - 100 percent correctly on familiar animals and body parts.

3. Prepositions "on" and "under" - She still has difficulty using these words appropriately, although she does understand the concept.

4. Interrogative - She was able to manipulate the words and say the declarative and interrogative with minimal aid from therapists, but did not seem to understand the use of "is" as an interrogative word. She was never able to say the interrogative without visual aids.

5. Noun phrases:

   a. Color and noun - 100 percent correct on picture cards
   b. "This is color and noun" - 100 percent correct on picture cards
   c. "A and color and noun" - 100 percent correct on picture cards, but slowly and with much concentration
   d. "This is a and color and noun" - rarely, usually all she could say was "This is color and noun"

Disposition of Client

It is recommended that Janet continue in therapy next quarter and that the language skills she acquired this semester be incorporated into conversational use.

# APPENDIX B

PROGRAM DOCUMENTS

PROGRAM ROLE STATEMENTS

PROGRAM TYPICAL FORMS USED

## MATERIALS DEVELOPED FOR MODEL PROGRAM

1. Guidelines for ten-week trainee program for*

   Educational Diagnostician
   Instructional Programmer
   Implementer
   Evaluator

2. Checklists for regular classroom teachers to identify children with specific learning disabilities

3. Lists of program activities related to specific learning disabilities

4. Handbook on rationale of the differentiated team concept

5. Instructional materials* organized in various areas of disabilites in sequences of increasing difficulty for problems in:

   Visual Perception
   Auditory Perception
   Conceptualization
   Perceptual Motor
   Language Development

6. Evaluator checklists for charting student progress

7. Detailed evaluation reports of program developed by the Educational Planning Service at the University of Northern Colorado

* See role statements following

## TEAMING AND DIFFERENTIAL STAFFING

Teaming and differential staffing can be a most satisfying and effective way of reaching underachievers. However, there are certain ingredients which are essential in effective teaming.

Each member must have the same common goal or purpose for serving on the team - the sincere desire to help children.

Each member must be child oriented or centered.

Each member must realize his limitations, as well as his strengths.

Each member must accept the other members as they are - their strengths, weaknesses and idiosyncrasies. You are not there to change them. Utilize their strengths and be grateful for them, because without them the team cannot function.

Each team member must be willing to carry his share of the duties required to make the team effective. When one member drags his feet, the others must share his duties.

Each member must bear in mind that his actions may sometimes jeopardize the team. He must frequently ask himself, "If I do or say this, what effect will it have on the team?".

Each member must possess the flexibility to interchange roles and allow other members to step into his role without being threatened.

Each member must be able to interact freely with any one or all of the other members. The exchange of ideas and opinions, the airing of gripes, discussions of problems and how to solve them, etc., that come from the interactions, constitute the inner relationships that hold the team together.

Each of the team members has strengths in all four roles, but only one has the "innate" ability to assume the responsibility of a particular role. For example, there are tests that one member may be better at administering than any of the others, or one may be more efficient at observing, counting and recording behavior. These strengths must be utilized, but only the diagnostician has that extra bit of uniqueness to study all of the data gathered by himself and others, relate it to the child, move about the various theories for answers, arrive at a diagnosis, and then interpret his findings to the team.

It is the contributions each member makes to each role on the team, and the genuine respect each member has for the other one who assumes a particular role because he has an "innate" feeling for that role, that makes differential staffing unique, as well as successful.

All team members are dependent upon each other. Each needs to develop respect and admiration for the other by seeking his opinions and feelings and sharing these in a climate of problem solving and service. The team can only survive if it develops the conviction that its cooperative efforts are superior to its individual efforts.

Frequent team meetings can help set the tone for this interchange by bringing up everyday problems of individual children. Solving these small problems together can give the team practice in communicating with each other and catch many road blocks before they become crises.

## THE DIAGNOSTICIAN

The diagnostician of a team must be able to coordinate the various theories, as they best apply to the difficulties of a particular child, in terms that suggest intervention possibilities, including learning disabilities, developmental needs, school and family milieu, ego, skill and experiential needs. He should be able to move back and forth between schools of thought to find the expression of those needs best and most easily usable by the programmer for the child.

This requires an empathetic projection, both for the child and the various situations in which he finds himself, and for the programmer and the resources and limitations of the team and its facilities. He must have a view of human improbability which includes cultural and personal development, and the hangups and road blocks which can hinder that development.

He must be familiar with the basic testing instruments measuring cognitive, language, scholastic and social skills, and be able to reconstruct from the findings of these tests and the results of behavioral and social reports, a most probable description or explanation of each child's difficulties in school. This estimate of the child's difficulties will establish a hierarchy of needs and requirements from which the child's treatment will be programmed.

The diagnostician must observe each child in many situations, then relate the behavior exhibited to other diagnostic findings. He must be able to communicate his findings to teachers, administrators and parents in terminology they can understand. It is from the diagnostician that the parents first seek to gain knowledge regarding the child and his problems.

He must spend some of his time in the learning center with the implementor and the children. He must occasionally participate in an activity, interact with the children, and provide emotional support when called upon to do so. His sensitivity to particular needs at this time provides opportunities to make alterations in diagnosis or meet with the programmer to make minor adjustments in programming.

## THE PROGRAMMER

The role of the programmer demands close contact with the other three members of the team. However, the closest contact is with the diagnostician. Interaction between programmer and diagnostician is necessary for effective programming. Interaction includes exchange of opinions, discussion of theories and occasional exchange of roles.

The programmer must be able to take the information provided by the diagnostician and the reconstruction of the child's difficulties and develop a workable curriculum for the child within the limitations of the program. He must be able to freely relate materials and techniques to learning needs, be able to analyze skills and behaviors into manageable steps, and develop activities which will motivate the child in the process of gaining the desired skills and behaviors. If there are learning deficits which are not readily amenable to treatment, compensatory or supplementary skills need to be programmed so that the child can function within reasonable expectations in the classroom.

The programmer must be knowledgeable in the field of learning disabilities, normal and deviant psychological development, and familiar with the various theories and experimental findings related to special education to understand the thinking of the diagnostician and the hierarchy of needs presented by the child. More important, he must have a basic understanding of educational practices and the ability to objectively assess the various existing techniques and materials available, then select those that are most appropriate for meeting the needs of a particular child. It will also be necessary to pool ideas from several current remedial approaches, elaborate, modify and/or reconstruct, and, thus, design a new activity which will more effectively facilitate the desired responses.

The programmer selects, designs or creates materials and activities that are meaningful and impactful, and which will motivate the child to explore and relate to his environment. He must be familiar with the various diagnostic tools available, especially those used by the diagnostician in order to analyze the demands made on the child in performing the various tasks, to pin-point the levels of involvement.

In the process of prescribing a program for a particular child, the programmer must communicate his intentions to the diagnostician for approval and/or advice. The interaction here is important in that it provides the opportunity to relate the treatment plan to the needs of the child.

He must maintain close communication with the implementer. The treatment plan designed for the child must be discussed with the implementer. They must exchange interpretations of the child's behavior, responses, learning style, strengths, weaknesses and environmental forces affecting the learning process. Together they formulate realistic goals for the child that are relative to his needs. The programmer explains the approach to be used, the methods of presentation, the materials and activities selected or designed for implementing the prescribed treatment plan. Opportunity is provided here for an exchange of ideas regarding implementation.

Similar communication must be maintained with the evaluator. The treatment plan must also be explained to him so that he can continually evaluate progress, both in the resource room and in the regular classroom.

The programmer has an equally crucial inner-relationship with all members serving on the team. There is the economic problem of doing as much for as many as possible, and the psychological problem of giving as much individual help and attention as each child requires for his optimum development.

This problem includes not only the needs of the child, but the limitations of the physical setup of the learning center and the limitations of the personalities involved in working with the children, whether they are auxiliary teachers, practice teachers, teachers' aides, adult or child volunteers, or helpers. In many cases, the program must be designed not only to meet the child's needs, but to also fit the capabilities of the plant and the people involved in helping the child.

It is at the point of programming that the art of the possible enters in, and where decisions in terms of feasibility and practicality can be made. Theoretical issues cannot tell you when you can or cannot help a child.

## THE IMPLEMENTER

The implementer is in many ways the most important person on the team. Without him, the best work of the other members of the team is useless. He should first of all want to teach children. He must have a feeling of gratitude for the specialized help he gets from the other members of the team.

Besides relating well with all the children, he should relate well with all members of the team, but most particularly with the programmer. He must be able to take the curriculum programmed for the child and translate it into lesson plans and the lessons. He must be able to make the activities fun and absorbing, to manage the children without aversiveness, and to set up a desire and expectation to perform and to learn.

The implementer needs to know not only his materials, techniques and children, but the goals set for each child, the intended paths to these goals, and have the feeling that a great deal can be done to help achieve those goals. He must be knowledgeable in the field of learning disabilities, behavior modification and psychological development. He must be somewhat familiar with various theories in the field of special education. He, too, must have a basic understanding of educational practices.

The implementer must possess empathy for each child and his problems, sensitivity to the needs of children, and must reflect warmth and still maintain the structure necessary for learning. Above all, he must communicate complete acceptance of all the students. It is only through a trusting, accepting relationship that learning can take place.

He must also possess the flexibility to make modifications in implementing at a moment's notice, depending on the shifting needs of the children. He must also be able to play any role at a moment's notice when the need arises. A good implementer adds variety, intrigue, suspense and challenge to his presentations. A sense of humor is necessary for maintaining a healthy learning atmosphere.

In the same way that the rest of the team is dependent on the implementer, he is dependent on them. He needs their advice, approval and confidence in him.

## THE EVALUATOR

The evaluator must first of all relate well with the classroom teachers whose children are in the program and be able to be of service to them. He must also be able to communicate regularly with the administrator and keep him in contact with the activities of the team, the children and the parents. He must communicate with the teachers regarding advancements and problems related to the children and find whether they are improving in skills and behaviors in the classroom. Even though there are many other channels of communication with the classroom teachers, this is one of the most important because it can be more continuous and sometimes more responsive to the teachers' needs.

The evaluator should have regular contact with each child, as well as with his teacher. He should have a good foundation in understanding behavioral objectives and be able to observe and record behavioral changes in the children. He must be able to assist the classroom teachers through curriculum suggestions, materials, techniques or other indicated ways in facilitating the transfer or effectiveness of gains to the classroom.

The evaluator, as much as anyone on the team, must understand the goals and problems of cultural and personal development, and evaluate gains and losses in their relationships to these goals. He must know the materials and techniques so that he can aid the teacher in adapting them in the classroom. He can give advice regarding modification of schedules to meet needs. The evaluator should establish a functional relationship with the parents of the children in the program. With the help of the other members of the team, schedules must be arranged for conferences with the parents and the team, and for parent visitations to the learning center to observe the children at work.

It is the role of the evaluator to devise and/or develop and experiment with rating scales for assessing strengths and weaknesses, for evaluating progress, instruments for measuring behavioral gains or losses, and evaluation forms for recording changes in attitudes of children, classroom teachers and parents.

He should develop an instrument which will reflect the changes in each child over a period of time which is made up of observations from various sources. These various sources need not be expected to always agree. Disagreements may give clues not otherwise available to difficulties being encountered by the child and possibly mitigating against the effectiveness of the treatment.

The evaluator must communicate his findings to the other members of the team for the purpose of making adjustments in a particular child's program. In some cases, it may be changing the environmental setting in the regular classroom, providing additional or more sophistocated activities in the learning center, or whatever is necessary to facilitate the best possible responses.

LEADERSHIP TRAINING INSTITUTE IN LEARNING DISABILITIES
Department of Special Education
College of Education
University of Arizona

DATE_____

NAME OF STATE_____ NAME OF SCHOOL_____ CHILD'S NAME OR CODE NUMBER_____ SEX_____

REMEDIAL AREAS (mark a 1 for major emphasis
a 2 for minor emphasis)

_____ Reading Skills
_____ Writing
_____ Arithmetic
_____ Spelling
_____ Language
_____ Behavior
_____ Auditory Processing
_____ Visual Processing
_____ Haptic Processing
_____ Visual-Motor Processing
_____ Work Habits
_____ Other (please specify _____)

L.D. REMEDIATION SETTING (please check one)

_____ Resource Room
_____ Itinerant Teacher
_____ Self-Contained Classroom
_____ Mainstreaming (consultants)

CHILD'S PRESENT AGE IN MONTHS AT BEGINNING OF REMEDIATION_____

CHILD'S PRESENT MENTAL AGE IN MONTHS_____ ON_____ TEST

CHILD'S IQ_____ ON_____ TEST

CHILD'S PRESENT GRADE PLACEMENT_____

ACHIEVEMENT GRADE LEVEL (at beginning of remediation)

| | ON TESTS | YOUR RATING |
|---|---|---|
| Reading | _____ | _____ |
| Arithmetic | _____ | _____ |
| Spelling | _____ | _____ |
| Language | _____ | _____ |

DEGREE OF DISABILITY

_____ Mild
_____ Moderate
_____ Severe

NOTE TO TEACHER:

Under Remedial Areas write a 1 in the blank for the major remedial emphasis the child is receiving, and a 2 for any secondary remedial work.

Under Achievement Grade Level give the results of pre-remediation achievement tests. Also, give your rating of the grade level in ½ grades, i.e., 1.5, 2.0, 2.5, 3.0, etc.

Under Degree of Disability check mild for the child who is only slightly disabled and who will not require much remediation, check moderate for the child who is more disabled but who will very likely require a short period of training, check severe for the child who is very disabled and who will require a year to three years of individualized remediation.

Funded under EHA - Part G, P.L. 91-230. Bureau of Education for the Handicapped, U.S. Office of Education

TEACHER REFERRAL SHEET FOR RESOURCE ROOM

Date of Referral_____

Name_____ Address_____ Phone_____

Age_____ Birthdate___/___/___ Sex_____ Grade_____ School_____

Parent or Guardian_____ Teacher's Name_____

Referred by_____ Approved by_____

Purpose of Referral_____

_____

_____

Length of Time in District_____

Other Schools Previously Attended and Dates_____

_____

_____

Grades Repeated_____

School Test Scores_____ Report Card Grades_____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Is Student Enrolled in: Speech Therapy_____ Educationally Handicapped_____

or Special Education_____

Additional Information from School Records and/or Comments

_____

_____

_____

_____

**Intelligence Tests**

| Name of Test | Date Given | Grade Level, IQ or Other Information |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

**Relationship with Other Students:** (Note any particular ties with older or younger age groups or individuals; hetero-sexual development, social adjustment or maladjustment in and out of school setting, leader, follower, isolate, rejected, ignored, ridiculed, etc.)

**Ability to Communicate Orally:** (Indicate if child is verbose, loud, fantasy indulging, over-verbailizing, timid, apathetic, negativistic, uncommunicative, poor speech, etc.)

**School Attitudes:** (Note reaction to discipline; following directions; group activities; initiative; cooperation; participation; extra-curricular activities; behavior in class, hall, lavatory, lunch room, playground; attention seeking; withdrawl; acting out; etc.)

**Physical and Emotional Conditions:** (Underline words that apply - bites nails, sensitive, aggressive, temper tantrums, moody, overly-conforming, sucks thumb, strong fears, day dreams, unhappy, blinks eyes, nervous tics, lethargic, compulsive, erratic, impulsive, hyperactive; distractible; bad dreams, wets bed, poor attention, poorly coordinated, destructive)

**Other Comments by Teacher or Principal:** _____

_____

_____
Signature of Person Making Referral



_____
Signature of Principal

RESOURCE CENTER

NAME OF STUDENT_____ AGE_____ SEX_____
Last First Middle

DATE_____ TEACHER_____ GRADE_____ SCHOOL_____

Below is a check list to be filled out completely by the referring teacher. It is to accompany the teacher referral and the parent permission form. Without this check list, acceptance into the program is delayed. Please feel free to consult with the resource team if questions arise.

Behavior - Social - Emotional

____ 1. Does not get along well with peers. Has difficulty establishing or maintaining friends.
____ 2. Frequently "picked on" by classmates.
____ 3. Compelled to win no matter the consequences.
____ 4. Poor looser - shows extreme aggravation or hostility when he/she is on the losing side or team.
____ 5. Wants rules to be changed to fit his/her needs.
____ 6. Overly aggressive in competitive functions.
____ 7. Overly aggressive to peers (bully).
____ 8. Overly aggressive to authority figures (teachers, etc.).
____ 9. Unusually shy or withdrawn.
____ 10. Easily forced into defensive situation.
____ 11. Behavioral eruption for no apparent reason.
____ 12. Over responds to situation.
____ 13. Attracted to minute detail in objects, bright colors, moving objects, etc.
____ 14. Excessive staring or daydreaming.
____ 15. Extremely short attention span.
____ 16. Inability to complete assignments within time allotted.
____ 17. Very meticulous.
____ 18. Repeats behavior over and over (perseveration).
____ 19. Excessively active - tends to be overactive.
____ 20. Excessively inactive - needs to be prodded - lazy, underactive.
____ 21. Displays excessive affection to peers or adults in total school situation.
____ 22. Easily upset and often cries in minor predicament.
____ 23. Fears many things which a majority of his/her peers do not.
____ 24. Quite immature. Does not act his/her age.
____ 25. Insensitive to others and their feelings.
____ 26. Great difficulty socializing. This may be displayed through sharing, cooperative projects, team affiliation, etc.
____ 27. Demands unusual amount of attention either active or passive. Acting out or withdrawing.
____ 28. Objects or refuses to attend school for no apparent reason or from fear of failure.
____ 29. Complains of constant aches and pains.
____ 30. Avoids learning situations. Asks to go to nurse, lavatory, etc.
____ 31. Cannot overlook movements in classroom. Children moving, papers shuffling, quiet talking, etc., detracts him/her from work (attending).

This section is concerned with the academic abilities of the child. It will be divided into reading, motoric and writing and conceptualization.

Reading

____ 1. Holds printed materials, papers or books too close (six inches or less).
____ 2. Avoids work requiring visual recognition (visual reception).
____ 3. Inability to recognize pictures of familiar objects.
____ 4. Inability to pair objects with similar parts, i.e., red balls to yellow balls, four-legged animals, etc. (visual association).
____ 5. Unable to remember objects or pictures previously presented (visual memory).
____ 6. Cannot place a series of picture/letters in appropriate order to give meaning (visual sequencing).
____ 7. Not capable of recognizing differences in objects, pictures or letters (visual closure).
____ 8. Inability to supply missing parts of geometric shapes, pictures, etc. (visual closure).
____ 9. Cannot see parts added to pictures, etc. (visual reception and memory).
____ 10. Does not visually explore items. Takes surface look only.
____ 11. Cannot pick out visually what someone (he/she, or teacher) has described (visual sequencing, reception and auditory memory).
____ 12. Cannot interpret size using vision, i.e., large, small, capital, small, etc.
____ 13. Cannot follow objects visually (tracking/midline inabilities).
____ 14. Cannot describe pictures, etc. (visual discrimination).
____ 15. Inability to recognize different or rotated object in a series.
____ 16. Unable to separate foreground from background (visual figure-ground).
____ 17. Head is excessively out of position when viewing objects either head forward (goose-like) or tilted.
____ 18. Eyes do not move while viewing materials but head and trunk move (midline avoidance).
____ 19. Uncontrolled eye movement or jumping.
____ 20. Excessive squinting or facial contortion while viewing.
____ 21. Eye rolling or doing other visual tasks not asked.
____ 22. Appears to be pop-eyed during visual tasks.
____ 23. Does not seem to listen to instructions (auditory memory and reception).
____ 24. Cannot recall instructions (auditory sequencing).
____ 25. Inability to associate phoneme to grapheme or sound to letter (auditory association).
____ 26. Recognizes individual words but not those presented in meaningful language patterns (grammatic closure and verbal expression).
____ 27. Does not recognize environmental sounds without visual stimulus (auditory reception).
____ 28. Cannot attach word to picture.
____ 29. Tells barren or incoherent stories. Talks in circles (auditory memory, sequencing and verbal expression).
____ 30. Cannot give appropriate letter sound for letter presented (auditory association).
____ 31. Transposes sounds, i.e., scoohl for school.
____ 32. Exaggerated errors in verbal expression - confusion of prepositions, etc. (verbal expression).

___ 33. Cannot put isolated sounds together, i.e., "b" and "l" (sound blending).
___ 34. Cannot separate foreground from background noise, i.e., teacher talking while shuffling papers (auditory figure-ground).
___ 35. Inability to repeat a sentence without omissions or transpositions (auditory memory).
___ 36. Inability to fill in appropriate sound of incompleted word, i.e., banana for banan (auditory closure).
___ 37. Unable to give proper word form in different language situations, i.e., "I have one dog. She has two _____." (grammatic closure).
___ 38. Inability to respond verbally to auditory stimuli.
___ 39. Can perform better when print is upside down or rotated.
___ 40. Reverses/rotates letters, numbers or words, i.e., p for g, 27 for 72, was for saw.
___ 41. Loses place frequently while reading aloud.
___ 42. Loses place frequently while following silently in book.
___ 43. Omits words that are familiar to majority of class while reading aloud.
___ 44. Reading becomes very threatening part of curriculum.
___ 45. Word substitution that distorts meaning.
___ 46. Reads orally but does not comprehend what he/she has read (word-caller).
___ 47. Cannot "unlock" new words (phonetic inability).
___ 48. Reading ability at least three-fourths of a year below class level.

Motoric and Writing

___ 1. Inability to identify one's self through picture or mirror.
___ 2. Unable to identify and locate body parts.
___ 3. Unable to complete drawing of a man.
___ 4. Very poor, inaccurate or immature drawing of a man.
___ 5. Inability to generalize and transfer body localization and self concept.
___ 6. Exceptionally weak. Becomes easily fatigued.
___ 7. Unusual or different gait in walking or running.
___ 8. Carry over in movement. Cannot move one body part without activating another.
___ 9. Cannot find a path to teacher if he must walk round desks instead of down a row. Wanders around room (body - spatial organization).
___ 10. Poor reflexes. Allows objects to strike him/her before attempting to react to it. Ball hits him/her before he/she attempts to catch it.
___ 11. Inability to identify objects by touch.
___ 12. Does not know right from left, top from bottom, backwards from forwards (directionality).
___ 13. Does not seem to have a dominant hand, eye or foot. Begins project with one hand and finishes with another (laterality).
___ 14. Cannot perform an act without talking. Incapable of doing charades (visual-motor memory).
___ 15. Cannot coordinate eye and hand movements. Unable to do cut and paste activities.
___ 16. Inability to tie shoes.
___ 17. Arms, fingers or hands tremble when held in front of him/her or after completion of work.
___ 18. Difficulty finding his/her way to school.
___ 19. Poor muscle coordination in skipping, hopping, running, etc.

____ 20. Cannot reach cross-bodily to acquire pencil, ruler, etc. Cannot reach with right hand to left side of desk (midline avoidance).
____ 21. Has difficulty building towers, etc., with blocks or other three-dimensional objects.
____ 22. Cannot copy quickly and accurately a series of letters, numbers, etc.
____ 23. Draws lines right to left.
____ 24. Tries to write backhanded (left to right with arm in abnormal position).
____ 25. Draws circles clockwise instead of counter-clockwise.
____ 26. Writing or printing does not flow but is blocked.
____ 27. Very restricted drawings or writing.
____ 28. Drawing of diamond is kite-like or box-like in nature.
____ 29. Drawing of cross is poor. Wavy lines are seen.
____ 30. Pencil held in fist too lightly or too hard so as to break lead and tear paper.
____ 31. Accidently breaks and tears items.
____ 32. Confused writing. Words, letters, numbers overlap each other.
____ 33. Separation of forms, numbers or words. Gapping.
____ 34. Inability to trace.
____ 35. Very small compared to his/her peers.

Conceptualization

____ 1. Cannot draw from previous experiences outcome of present situation.
____ 2. Cannot generalize if specific is not present.
____ 3. Inability to categorize or classify objects according to size, color or other likenesses.
____ 4. Unable to use reasoning or judgment to gain logical answers for problem solving.
____ 5. Unable to use anticipatory abilities to predict outcomes.
____ 6. Cannot separate right from wrong.
____ 7. Inability to apply classroom regulations to his/her behavior.
____ 8. Inability to use one to one correspondence. Counting.
____ 9. Unable to indicate the meaning of numbers. Cannot adequately show or tell how many five is.
____ 10. Has extreme difficulty either learning or telling time.
____ 11. Does not understand the calendar. Cannot predict what day is tomorrow or yesterday.
____ 12. Has difficulty in the sequencing of numbers. Does not know what number precedes or follows a specific number.
____ 13. Cannot perform arithmetic problems. Confuses one operation with another.
____ 14. Cannot retain numerical equations, i.e., 2 + 3 = 5.
____ 15. Has difficulty remembering that division is done left to right while addition, subtraction and multiplication are done right to left in most cases.
____ 16. Begins arithmetic operation in the middle instead of beginning.
____ 17. Has great difficulty in understanding or conceptualizing words or ideas.
____ 18. Unable to form a mental image of described object. Example: What has four wheels, is very large, stops at corners and carries many people? Answer: bus.
____ 19. Inability to put actions into words.

## DEFICIENT AREAS AND ACTIVITIES TO REMEDIATE

A. EMOTIONAL

__ Highly Motivating Act
__ Successful Experiences
__ Group Interaction
__ Ego Development
__ Behavior Modification
__ Tension Release
__ Adjunctive Therapies
__ Play Therapy
__ Dart Games
__ Music Therapy
__ Recreational Therapy
__ Sociodrama
__ Psychodrama
__ Counseling
  __ Individual
  __ Group

B. AUDITORY

__ Discrimination Act
__ Environmental Sounds
__ Rhythm Band Act
__ Imitation Rhythm Pattern
__ Musical Glasses
__ Musical Bells

__ Hearing Parts of Words
__ Syllable Pictures
__ Teach Sound Units
__ Tape Recorded Act
__ Identify Syllables

__ Verbal Comprehension
__ Parts of Speech Games
__ Naming Drills
__ Opposite Game
__ Singular-Plural Game
__ Stimulus-Response Act
__ Picture Interpretation
__ Story Telling
__ Cause and Effect Act

__ Sequencing
__ Sound Naming Activities
__ Grocery Store Games
__ Simon Says Games
__ Imitate Sound Sequences
__ Listing Activities
__ Musical Bells
__ Spelling Game
__ Telephone Act
__ Typewriter
__ Sequence of Directions
__ Imitate Rhythms
__ Michigan Rummy

__ Memory
__ Following Directions
__ Telephone Tape Act
__ Simon Says
__ Memorizing Activities
__ Overhead Activities

C. VISUAL

__ Visual Activities
__ Jig-Saw Puzzles
__ Old Maid Games
__ Concentration Game
__ Configuration Game
__ Shapes Lottos
__ Pegboard Act
__ Sticker Fun Act
__ Flannel Board Act
__ Picture Completion
__ Picture Interpret
__ Picture Matching
__ Likenesses-Differences
__ Frostig Activities

__ Tracking
__ Marsden Ball Act
__ Find Hidden Words
__ Find Hidden Letters
__ Marble Game (Wa-Hoo)
__ Michigan Rummy
__ Checkers
__ Hidden Pictures

__ Sequencing
__ Flannel Board Act
__ Overhead Act
__ Musical Bells
__ Peabody Chip Act
__ Pattern Repetition
__ Art Act. Inv. Seq.
__ Sequence Think Act

__ Memory
__ Revisualizing Act
__ Sequence Picture Story
__ Flannel Board Act
__ Memory Box
__ Recall Act
__ Peabody Kits
__ Picture-Completion

__ Aud. Visual Correspond.
__ Bingo Game with Pics.
__ Matching Words and Pics.
__ Present Aud. Vis. Together
__ Word and Exp. Together

D. LANGUAGE

__ Building Concepts
__ Peabody Language Kits
__ Parts of Speech Game
__ Experience Stories
__ Library Experiences
__ Pantomining
__ Experience Trips
__ Puppetry
__ Categorizing Act
__ Free Expression

E. CONCEPTUAL

__ Engleman Program
__ Beginning
__ Advanced
__ Arithmetic
__ Following Directions
__ Categorizing Act
__ Parts of Speech Games
__ Domino Games
__ Twenty-one Game
__ Sequence Picture Stories
__ Money Game
__ Linear Measure Games
__ Non-Verbal Behavior Interp.
__ Classifying
__ Cause-Effect Act
__ Bingo Games with Pictures
__ What Goes Together Games

F. PERCEPTUAL MOTOR

__ Gross Motor Skills
__ Spatial Relations
__ Directionality
__ Aiming Skills
__ Laterality
__ Balance Act
__ Chalkboard Act
__ Ball Skills
__ Movement Exploration
__ Relaxation Act
__ Body Image Act
__ Visual-Motor Skills
__ Chalkboard Act
__ Cutting Act
__ Overhead Act
__ Pre-Writing Act
__ Writing Exercises

PERMIT FORM

Because of the continued growth of educational facilities in our district, we now have the opportunity to offer individual psychological services by trained personnel in our schools. If you desire to take advantage of this opportunity to help us in developing a better understanding of your child and in planning his educational program, please sign your name and fill in the information in the spaces provided below.

_____ _____
Child's Name Birthdate

_____ _____
Home Address (street, town, zip code) Telephone

_____ _____ _____
School Teacher Grade

Grades Skipped:_____ Grades Held Back:_____

_____ _____ _____
Father's Name Where Employed Mother's Employment

List Sisters and Brothers:

| Name | Age | Grade | Name | Age | Grade |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

Others Living in the Home:_____

List any major examinations, diagnoses or special help the child has had or is now receiving from hospitals, clinics or physicians. Give dates:_____

_____

Has the child ever been examined by a psychologist or psychiatrist?_____
Date_____ If so, where_____ Address_____

Comments:_____

_____

_____

Child's Doctor is: Dr._____ Phone:_____

Address_____

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_____
Signature

# APPENDIX C

## EVALUATION METHODOLOGY

## EVALUATION METHODOLOGY

### Purpose

According to the "Work Statement" upon which federal funds were secured for this project, the evaluation system was to:

. . ."include administrative evaluation and accountability, cost-effectiveness, and the continued collection and evaluation of data on the children served by the eight educational resource centers. The data will be treated by statistical analysis to determine educational achievement and the effectiveness of the teaming and differential staffing program."

Throughout the year, this purpose guided the development and implementation of the evaluation.

### Conducting the Evaluation

The Colorado Department of Education, the Educational Planning Service (EPS) of the University of Northern Colorado, and the eight participating administrative units all joined efforts to plan and conduct the evaluation. Five phases comprised this cooperative evaluation effort:

1. Planning

   A list of purposes and focuses for the evaluation was given to each team member for judgment as to importance. From these judgments, evaluation priorities were determined and a contract was negotiated with the EPS following these evaluation priorities. The evaluation was to be designed to be used by these decision-makers: prospective adopters, participating staff and associates, and the general public. The Educational Planning Service developed the detailed evaluation plan and data-gathering instruments.

2. Description

   To gain a description of the program which was comprehensive as well as factual, thirty-five factors were identified under three main headings: a) student population served, b) environment, and c) the learning intended. (See list on page 66.) A tentative list of factors was reviewed by team members and administrators in each participating administrative unit before a final list was completed and presented to the external evaluator for instrumentation. Five staff members of the EPS conducted on site visits to collect descriptive data by interview and documentary research.

3. Analysis

   The Educational Planning Service organized the descriptive data according to project objectives as determined by each participating

team. A statistical analysis of variance was used to find significant differences among various student groups in the population identified by sex, ethnicity, age and severity of disability. From the analysis, certain factual statements were developed as preliminary findings.

4. Evaluation

Staff at EPS reviewed the findings in terms of program objectives, legal criteria as contained in the Handicapped Children's Educational Act and ensuing Rules, and commonly accepted administrative practice. Recommendations were developed for each of the eight participating centers and for the statewide program as well.

5. Reporting

Prior to development of the final reports, each project team and administrative staff reviewed the rough draft report for their program, making additions, modifications and deletions where appropriate. The Educational Planning Service produced a two-volume report. Volume I contains description, analysis and recommendations for each of the eight participating programs, and Volume II contains the summary of the statewide effort. Additionally, this summary report was prepared at the Department of Education for general distribution and feedback.

Throughout the evaluation, certain policies, as developed cooperatively by the Department of Education, the Educational Planning Service, and the participating staffs of the eight administrative units, were followed to the greatest degree possible. These policies specified that the evaluation be:

1. Objectives-Referenced

Considerable efforts were made to determine objectives which: a) were commonly acceptable to each team and b) were of such specificity to permit measurement to determine the extent to which they were being achieved. Objectives were stated for each team role and for the program generally. Student performance objectives were found to be of such diversity to preclude specific measurement, therefore, a general indicator of student gain was chosen.

2. Comprehensive

Rather than focus on one or two aspects of the program, such as student achievement or cost, the evaluation encompassed thirty-five program factors under three main dimensions (see list following). Various staff inservice activities were conducted to broaden common conceptions of the purposes and procedures of evaluation among project participants.

3. Unobtrusive

Although staff members were asked to spend considerable time in identifying their objectives and corresponding indicators of attainment, EPS conducted on site visits to refine objectives into measurable terms and to collect much of the descriptive data. These on site visits reduced the staff time needed for the statewide evaluation effort.

4. Educational

Activities were designed to afford educational experiences for all participants. Personnel from EPS gained experiences in their graduate studies at the University of Northern Colorado for understanding and experience in program evaluation, administration, data collection, analysis, report writing and related learning. Team staff from each participating district increased their understanding of the nature of their programs and the objectives toward which they are working.

In summary, the evaluation was planned and implemented with participation and cooperation taking precedence over sophisticated design and statistical analysis. With this "broad brush" approach as a start, hopefully more definitive and precise evaluations will follow for increasing program effectiveness in these eight participating administrative units and elsewhere.

Staff Participation

The chief administrator of each of the eight participating units designated one person to serve on an ad hoc panel to consider evaluation priorities, procedures and reporting procedures. The panel consisted of four supervisors or directors of special education and four team lead teachers, and it met four times during the 1973-74 school year as follows:

1. August 14, 1973

Discussion of plans and prospects in each of the administrative units, review of the tentative evaluation plan, and planning for future meetings of the panel and of the full staff from the eight participating units.

2. October 10, 1973

Review of evaluation priorities as judged by team members and administrators, discussion with evaluation contractor (the Educational Planning Service of the University of Northern Colorado), selection of a common measure of student achievement (the Wide Range Achievement Test), and planning for the next full staff meeting.

3. January 15, 1974

Review of program descriptors, planning of data collection activities with EPS, planning for full staff meeting to refine program objectives.

4. June 10, 1974

Review evaluation reports prepared by EPS and recommend reporting procedure.

At least three times during the year, team members met to share mutual concerns and to determine objectives upon which the evaluation was to be

based. Meetings of approximately thirty persons from the eight participating administrative units were as follows:

1. August 24, 1973

   Panel discussion on needs and objectives with a diagnostician, programmer, implementer and evaluator from separate administrative units review of evaluation priorities and discussion of common measures of student gain, including use of the learning quotient as one tool for program description.

2. January 15, 1974

   Discussion of "bridging the gap" between resource centers and regular classrooms, review of program objectives developed by EPS, and consideration of cooperation with a project to develop criteria-referenced exercises.

3. March 15, 1974

   Meeting concurrently with the Colorado Council for Exceptional Children, discussion with consultants from the Leadership Training Institute regarding communication and replication needs.

The detailed evaluation plan, as developed by EPS is contained in Volume I of the detailed report. Following is a list of factors agreed upon by the staff as important aspects of program operation.

Program Description

1. Student Population Served - Numbers and Location of Students

   1.1 Nature and Extent of Disability

      1.1.1 Visual Perception
      1.1.2 Auditory Perception
      1.1.3 Conceptualization
      1.1.4 Perceptual-Motor
      1.1.5 Language Development

   1.2 Learning Quotient

      1.2.1 Expected Age
      1.2.2 Achievement Age

   1.3 Biographical Characteristics

      1.3.1 Age
      1.3.2 Sex
      1.3.3 Socio-Economic Status
      1.3.4 Ethnicity
      1.3.5 Time in Program
      1.3.6 Time in School
      1.3.7 Rubanism

2. Environment

2.1 Program Implementation

2.1.1 Pre-Planning
2.1.2 Staff Training
2.1.3 Community Orientation

2.2 Program Costs

2.2.1 Professional Staff
2.2.2 Support Staff
2.2.3 Materials, Supplies and Equipment
2.2.4 Transportation
2.2.5 Facilities

2.3 Program Operation

2.3.1 Staff-Time Sampling
2.3.2 Decision Structure and Process
2.3.3 Instructional Activities

2.4 Staff Characteristics

2.4.1 Certification and Endorsements
2.4.2 Interests
2.4.3 Prior Experience

3. Learning Intended

3.1 Proposal Objectives

3.1.1 Return to Regular Programs
3.1.2 Academic Achievement
3.1.3 Psycholinguistic Gain and Leveling
3.1.4 Language Gain
3.1.5 Socio-Emotional Gain

3.2 Disability Remediation

3.2.1 Continuum Objectives
3.2.2 Special Programs

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Prepared by

Constance Rose
Coordinator, Learning Disabilities
Pupil Services Unit
David C. Miles, Director

Colorado Department of Education
Office of Program Management
E. Dean Coon, Associate Commissioner

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January, 1973 — Denver, Colorado



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# Forward

*We teach a subject not to produce little living libraries on that subject but rather to get a student to think for himself . . . Knowing is a process, not a product.*

*Jerome Bruner*

This handbook provides information of the rationale behind the model resource center and an overview of the differentiated staffing patterns. A description of the operational procedures of the center and of the replication strategy used to multiply the effect of the center in Colorado.

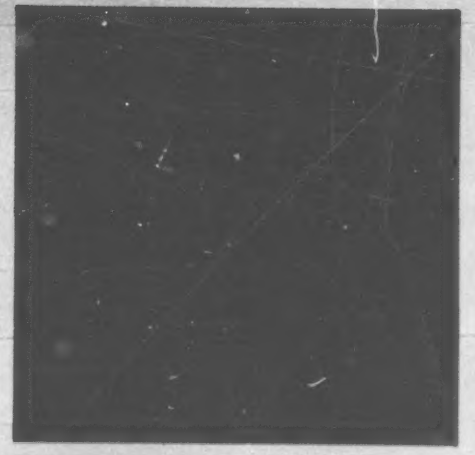
# Perspective

The number of children demonstrating a variety of learning problems as they reach the third grade in elementary schools presents a real concern to many teachers in the primary grades. These concerns center around the problems the child is having with learning, the cause of these problems, and what can be done to correct them.

Educators in Adams County School District 50, Westminster, Colorado were interested in developing a more adequate (educationally handicapped) program than the existing programs to serve children with educational problems. Children who are not helped become increasingly handicapped, fall further behind in achievement, and develop consequent emotional and social problems. A program designed to develop new ways to help these children and to train classroom teachers to utilize the techniques found successful evolved into the Educational Resource Center.

The District 50 Center for educationally handicapped children works on a model of educational diagnosis, educational programming, educational implementation, and educational evaluation for each individual educationally handicapped child. This child centered approach to learning disabilities has proved so effective and received such notoriety that many visitors from various states have come to observe the methods employed.

The Pupil Services Unit of the Colorado Department of Education worked closely with the Resource Center. A state plan for a Child Services Demonstration Program based on the Resource Center model with a unique system for replicating this program throughout Colorado was funded under Part G, Title VI, Public Law 91-230.



# Personnel

Teaming and differential staffing can be a most satisfying and effective way of reaching underachievers. However, there are certain essential ingredients in effective teaming.

Each member must

- *have the same common goal or purpose for serving on the team.*
- *be child oriented or centered.*
- *realize his limitations as well as his strengths.*
- *accept other members as they are.*
- *be willing to carry his share of the duties required to make the team effective.*
- *possess flexibility to interchange roles without feeling threatened.*
- *be able to interact freely with any or all of the other team members*
- *bear in mind that actions may sometimes jeopardize the team.*

It is the contributions each member makes to each role on the team, and the genuine respect each member has for the one who assumes a particular role because he has an "innate" feeling for that role that makes differential staffing unique as well as successful. The team can only survive if it develops the conviction that its cooperative efforts are superior to its individual efforts.

# Educational Diagnostician

The diagnostician must be familiar with the basic testing instruments measuring cognitive, language, scholastic, and social skills and be able to reconstruct from these test findings and the results of behavioral and social reports a probable description or explanation of the child's difficulties in school. This estimate will establish a hierarchy of needs and requirements from which the child's treatment will be programmed.

He must be able to communicate his findings to teachers, administrators, and parents in the most understandable terms possible.

The diagnostician must spend some time in the learning center, participating in activities and interacting with the implementer and the children. His sensitivity to particular needs may make alterations in diagnosis apparent and thus minor adjustments in programming may be provided.

# Educational Programmer

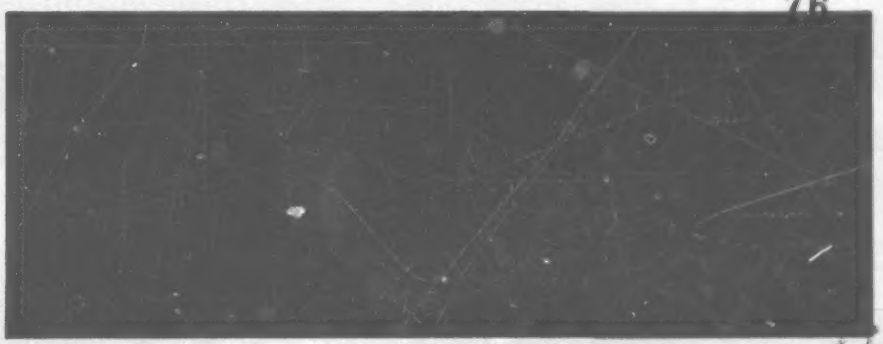
The role of the programmer demands close contact with the other three members of the team. However, the closest contact is with the diagnostician. Interaction between the programmer and diagnostician includes exchange of opinions, discussion of theories and occasional exchange of roles and is necessary for effective programming.

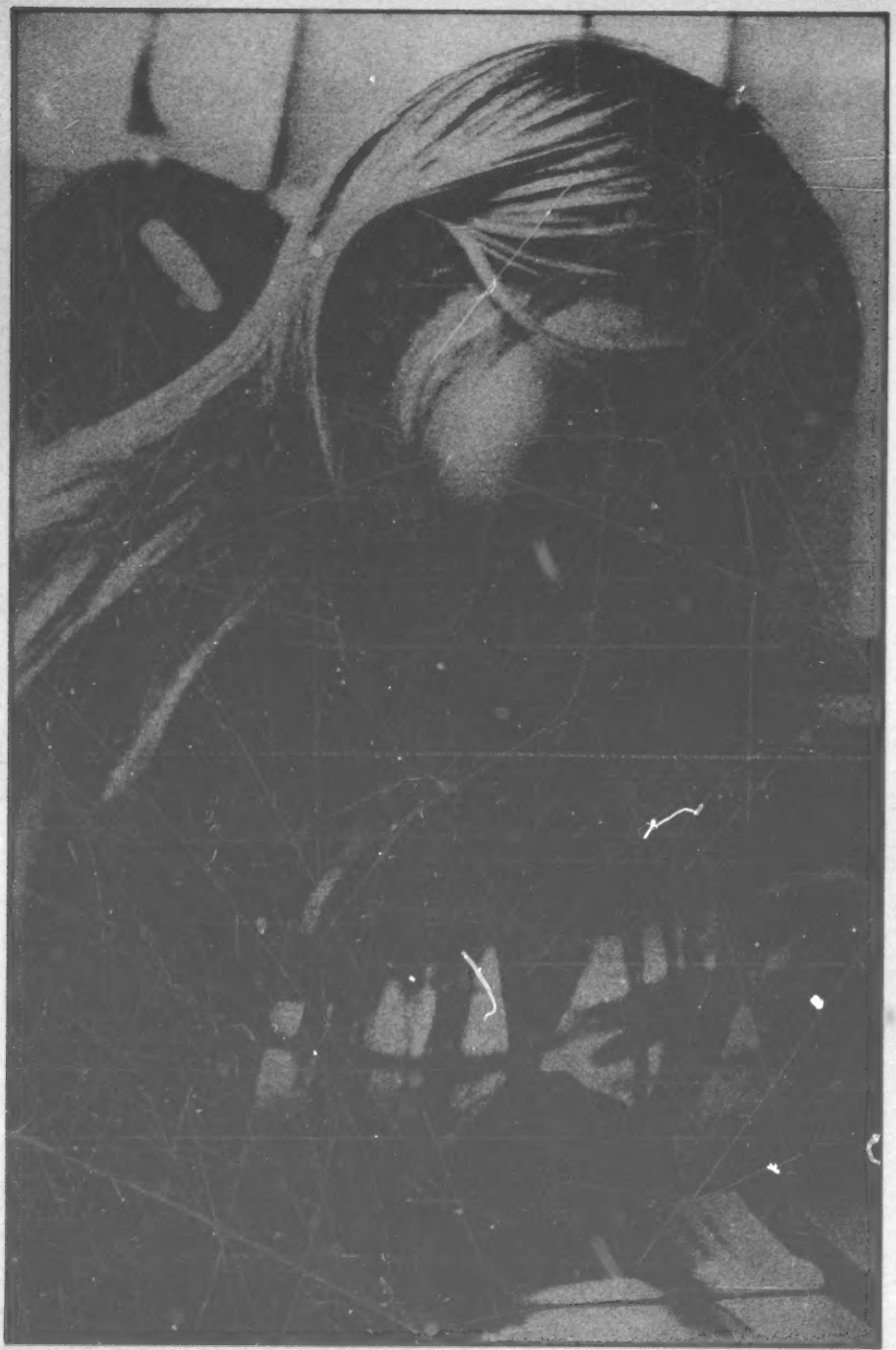
The programmer must be able to take the information provided by the diagnostician and develop a workable curriculum for the child within the limitations of the program. The programmer selects, designs, or creates materials and activities that are meaningful and which will motivate the child to explore and relate to his environment.

The treatment plan (approach, methods, materials, and activities) designed for the child must be discussed with the implementer. Interpretations must be made of the child's behavior, responses, learning style, strengths, weaknesses, and environmental forces affecting the learning process. Realistic goals must be formulated for the child that are relevant to his needs.

The treatment plan must also be explained to the evaluator so that he can continually evaluate progress both in the resource room and in the regular classroom.





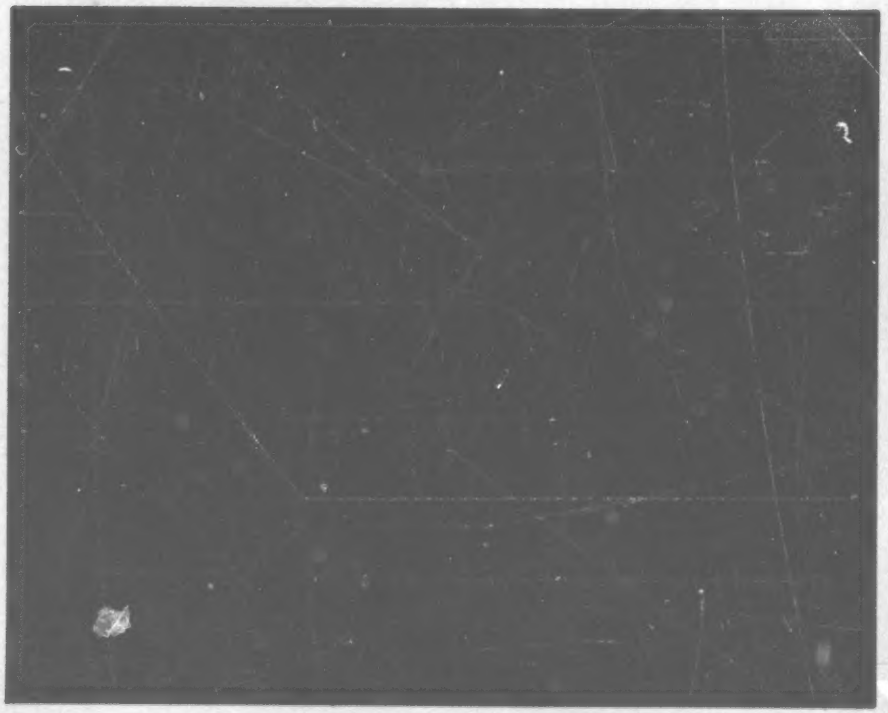


# Educational Implementer

The implementer is in many ways the most important member of the team for without him the best work of the other members of the team is useless.

The implementer must be able to take the curriculum programmed for the child and translate it into lesson plans and the lessons. He needs to know the materials, techniques, children, and the goals set for each child including the intended paths to these goals. Possession of the flexibility to make modifications in implementing at a moment's notice, depending on the shifting needs of the children, is necessary.

A good implementer, with a sense of humor, adds variety, suspense, intrigue, and challenge to his presentations.



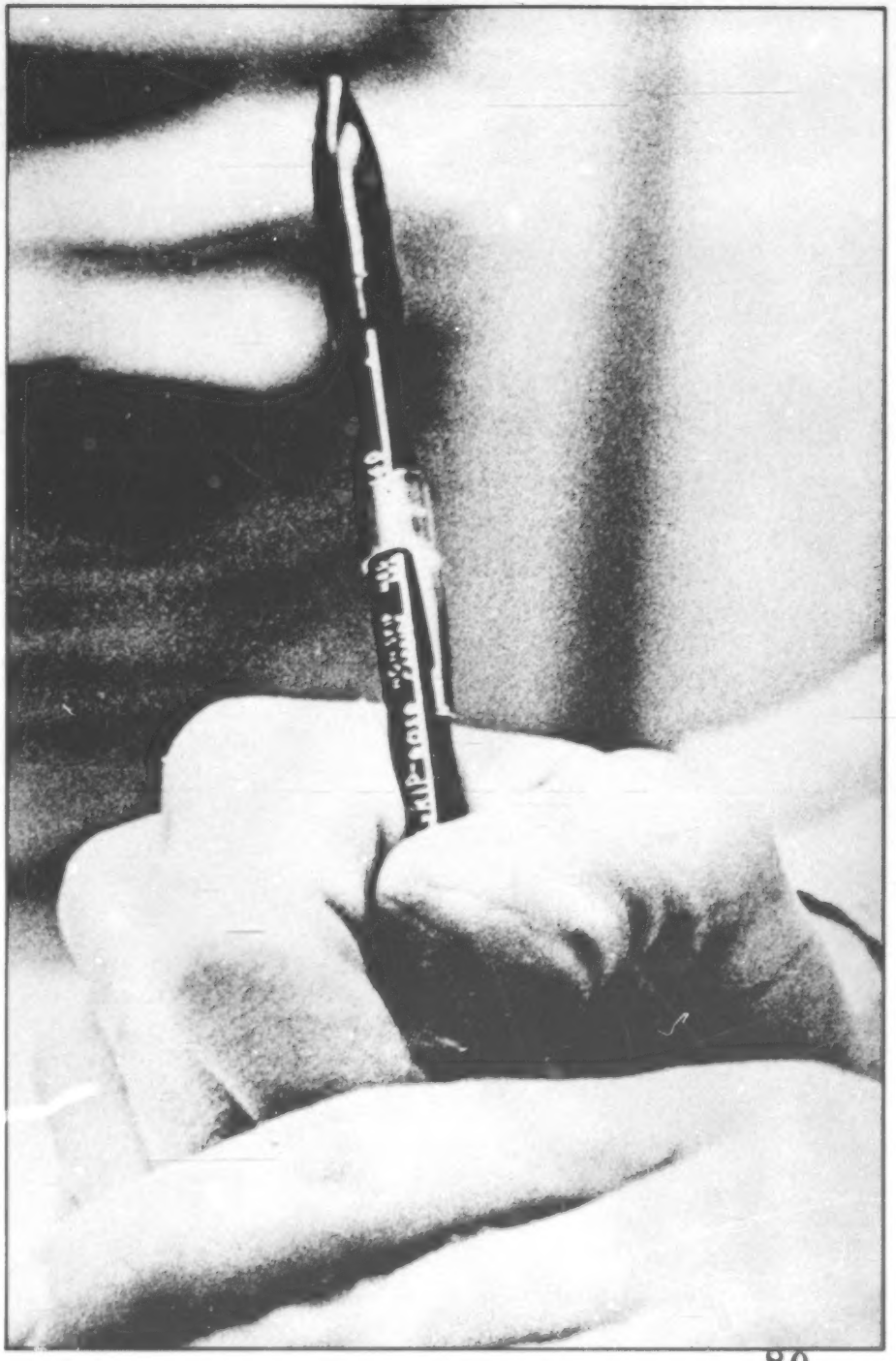
## Educational Evaluator

The evaluator serves as liaison and communications agent. He should have regular contact with each child as well as with the classroom teacher to be able to assist the teacher through curriculum suggestions, materials, and techniques in facilitating the transfer of effectiveness or gains to the classroom.

It is the role of the evaluator to devise, develop, and experiment with rating scales for assessing strengths and weaknesses, for evaluating progress, instruments for measuring behavioral gains or losses, evaluation forms for recording changes in attitudes of children.

The evaluator must communicate his findings to the other members of the team for the purpose of making adjustments in a particular child's program when necessary.





# Goal

To replicate the model resource center concept for primary age children with learning disabilities in the schools of Colorado.

# Objective

To improve the competencies of teachers of the educationally handicapped in facilitating the learning process of children with disabilities in learning.

# Procedures

1. To conduct inservice training of teams of teachers of the educationally handicapped, each team consisting of four teachers, for a period of ten weeks during the academic school year.
2. To conduct the training of these teachers in teams of four, to function primarily in one area of competence: educational diagnosis, educational programming, educational implementation, or educational evaluation.
3. To multiply the model resource center concept and differentiated staffing pattern by having the trained teams establish and operate a model resource center in their respective school districts.

# Results

During the first year of the project (1971-72) two teams of four teachers each were trained at the resource center model and returned to their respective districts to establish their own resource centers. Six teams are being trained during the current school year (1972-73) at the Model Resource Center and its satellites and will be replicating the resource center model in their units following the completion of the training session. It is reasonable to anticipate the replication in twelve additional units plus the training of additional teams within the larger units.

*For further information regarding the model resource center replication plan, visitation, etc. contact:*

*Constance Rose, Coordinator*
*Learning Disabilities*
*Pupil Services Unit*
*Colorado Department of Education*
*(303) 892-2282*

# Acknowledgements


*Model Resource Center*

Adams County #50 Public Schools,
Westminster, Colorado
Dr. John E. Flynn, Director, Special Services
Team Leader and Programmer, Mrs. Esther Brown
Implementer, Mrs. Clare Ahnstedt
Evaluator, Miss Janet Riess
Diagnostician, Mr. Tim Roberts
Aides: Bea Egger
Helen Schell
Rosalie Marcum
Ann Vecchiarelli

*Fort Morgan Resource Center*

South Platte Valley Board of Cooperative Services,
Fort Morgan, Colorado
Joseph Beatty, Director, Special Education
Team Leader and Programmer, Mrs. Kathryn George
Implementer, Mrs. Virginia Karas
Evaluator, Mrs. Beverly Chambers
Diagnostician, Mr. Michael Reikofski
Aides: Ann Slocombe
Maxine Weimer
Ladelle Delli

*Spangler Elementary Resource Center*

St. Vrain Valley School District, Longmont, Colorado
Mrs. Louise Hayes Baribeau, Supervisor, Special Services
Team Coordinator and Implementer, Mr. Mike Keister
Programmer, Mrs. Dena Schneier
Evaluator, Mrs. Vivian Rempel
Diagnostician, Mrs. Joann Hansen
Aides: Nancy Clayton
Annette Laber

*Colorado Department of Education*

Dr. Dale Polley, Consultant